INDEX TO AUTHORS

ABELL, L. L. See DEMING, MOSBACH, BEVANS, DALY, ABELL, MARTIN, BRUN, HALPERN, and KAPLAN, 581

ALLEN, RAYMOND A. See ROUS and ALLEN, 63

ATKINS, ELISHA, and HUANG, WEI CHENG. Studies on the pathogenesis of fever with influenzal viruses. I. The appearance of an endogenous pyrogen in the blood following intravenous injection of virus, 383

— and —. II. The effects of endogenous pyrogen in normal and virus-tolerant recipients, 403

— and —. III. The relation of tolerance to the production of endogenous pyrogen, 415

BARRY, GUY T. Colominic acid, a polymer of *N*-acetylneuraminic acid, 507

—. See GOEBEL and BARRY, 185

BÉLANGER, LEONARD F., and MIGICOVSKY, B. B. Early changes at the epiphysis of rachitic chicks, following administration of vitamin D, 821

BEVANS, M. See DEMING, MOSBACH, BEVANS, DALY, ABELL, MARTIN, BRUN, HALPERN, and KAPLAN, 581

BOEHME, DIETHELM, and DUBOS, RENÉ J. The effect of bacterial constituents on the resistance of mice to heterologous infection and on the activity of their reticulo-endothelial system, 523

BRUN, L. M. See DEMING, MOSBACH, BEVANS, DALY, ABELL, MARTIN, BRUN, HALPERN, and KAPLAN, 581

CAMPBELL, DAN H. See GARVEY and CAMPBELL, 497

CARPENTER, CHARLES M. See HEILMAN, HOWARD, and CARPENTER, 319

CHAIKOFF, I. L. See LINAZASORO, HILL, CHEVALLIER, and CHAIKOFF, 813

CHEVALLIER, FRANÇOIS. See LINAZASORO, HILL, CHEVALLIER, and CHAIKOFF, 813

DALY, M. M. See DEMING, MOSBACH, BEVANS, DALY, ABELL, MARTIN, BRUN, HALPERN, and KAPLAN, 581

DANNENBERG, ARTHUR M., JR., and SCOTT, EVA M. Melioidosis: pathogenesis and immunity in mice and hamsters. I. Studies with virulent strains of *Malleomyces pseudomallei*, 153

DARNELL, JAMES E., JR. Adsorption and maturation of poliovirus in singly and multiply infected HeLa cells, 633

DEMING, Q. B., MOSBACH, E. H., BEVANS, M., DALY, M. M., ABELL, L. L., MARTIN, E., BRUN, L. M., HALPERN, E., and KAPLAN, R. Blood pressure, cholesterol content of serum and tissues, and atherogenesis in rat. The effect of variations in blood pressure on the cholesterol content of serum and tissues and on the development of atherosclerosis in rats on a high cholesterol diet, 581

DUBOS, RENÉ J. See BOEHME and DUBOS, 523

EAGLE, HARRY, FREEMAN, A. E., and LEVY, M. The amino acid requirements of monkey kidney cells in first culture passage, 643

FAVOUR, CUTTING B. See KETCHEL, FAVOUR, and STURGIS, 211
FREEMAN, A. E. See EAGLE, FREEMAN, and LEVY, 643

GARVEY, JUSTINE S., and CAMPBELL, DAN H. Effect of secondary injections of antigen upon the retention in liver of a primary injection, 497
GERBER, PAUL. See HAMRE, LOOSLI, and GERBER, 829, 845
—. See LOOSLI, HAMRE, and GERBER, 857
GINSBERG, HAROLD S. Characteristics of the adenoviruses. III. Reproductive cycle of types 1 to 4, 133
GLASER, ROBERT J. See REICHLIN and GLASER, 219
GOEBEL, WALTHER F., and BARRY, GUY T. Colicine K. II. The preparation and properties of a substance having colicine K activity, 185
GORDON, H. A. See ZWEIFACH, GORDON, WAGNER, and REYNIERS, 437
GROSS, JEROME. Studies on the formation of collagen. I. Properties and fractionation of neutral salt extracts of normal guinea pig connective tissue, 247
—. II. The influence of growth rate on neutral salt extracts of guinea pig dermis, 265

HALPERN, E. See DEMING, MOSBACH, BEVANS, DALY, ABELL, MARTIN, BRUN, HALPERN, and KAPLAN, 581
HAMRE, DOROTHY, LOOSLI, CLAYTON G., and GERBER, PAUL. Antigenic variants of influenza A virus (PR8 strain). III. Serological relationships of a line of variants derived in sequence in mice given homologous vaccine, 829
—, —, and —. IV. Serological characteristics of a second line of variants developed in mice given polyvalent vaccine, 845
HAMRE, DOROTHY. See LOOSLI, HAMRE, and GERBER, 857
HEILMAN, DOROTHY H., HOWARD, DEXTER H., and CARPENTER, CHARLES M. Tissue culture studies on bacterial allergy in experimental brucellosis. I. The effect of *Brucella suis* whole antigen on cultures of spleen from normal and *Brucella*-infected guinea pigs, 319
HILL, R. See LINAZASORO, HILL, CHEVALLIER, and CHAIKOFF, 813
HILL, TERRELL L. Immunoreactions involving platelets. II. Theoretical analysis of the model, 691
HIRSCH, JAMES G. See HOBSON and HIRSCH, 167
HOBSON, DEREK, and HIRSCH, JAMES G. The antibacterial activity of hemoglobin, 167
HOWARD, DEXTER H. See HEILMAN, HOWARD, and CARPENTER, 319
HUANG, WEI CHENG. See ATKINS and HUANG, 383, 403, 415
HUDGINS, PAUL C., and PATNODE, ROBERT A. Studies on the effect of triton (WR-1339) on guinea pig tissues. II. Fragility of blood cells, 43
—. See PATNODE and HUDGINS, 55
—. See PATNODE, HUDGINS, and JANICKI, 33
HUGGINS, CHARLES, and POLLICE, LUCIO. Effects of 3-methylcholanthrene on the endocrine system and metabolism of the rat and its influence to retard growth of mammary tumors hitherto refractory, 13

JANICKI, BERNARD W. See PATNODE, HUDGINS, and JANICKI, 33

KAPLAN, MELVIN H. Localization of streptococcal antigens in tissues. I. Histologic distribution and persistence of M protein, types 1, 5, 12, and 19 in the tissues of the mouse, 341

KAPLAN, R. See DEMING, MOSBACH, BEVANS, DALY, ABELL, MARTIN, BRUN, HALPERN, and KAPLAN, 581

KARNOVSKY, MANFRED L. See MAJNO and KARNOVSKY, 475

KATSH, SEYMOUR. Demonstration *in vitro* of anaphylactoid response of the uterus and ileum of guinea pigs injected with testis or sperm, 95

KETCHEL, MELVIN M., FAVOUR, CUTTING B., and STURGIS, SOMERS H. The *in vitro* action of hydrocortisone on leucocyte migration, 211

KINDERMAN, CHRISTA. See REICHLIN and GLASER, 219

KING, M. KENTON, and WOOD, W. BARRY, JR. Studies on the pathogenesis of fever. III. The leucocytic origin of endogenous pyrogen in acute inflammatory exudates, 279

— and —. IV. The site of action of leucocytic and circulating endogenous pyrogen, 291

— and —. V. The relation of circulating endogenous pyrogen to the fever of acute bacterial infections, 305

KLEINFELD, RUTH, and MELNICK, JOSEPH L. Cytological aberrations in cultures of "normal" monkey kidney epithelial cells, 599

KOROS, AURELIA C. See KETCHEL, FAVOUR, and STURGIS, 211

LEPOW, IRWIN H., RATNOFF, OSCAR D., and LEVY, LAWRENCE R. Studies on the activation of a proesterase associated with partially purified first component of human complement, 451

LEVY, LAWRENCE R. See LEPOW, RATNOFF, and LEVY, 451

LEVY, M. See EAGLE, FREEMAN, and LEVY, 643

LINAZASORO, JOSÉ M., HILL, R., CHEVALLIER, FRANÇOIS, and CHAIKOFF, I. L. Regulation of cholesterol synthesis in the liver: the influence of dietary fats, 813

LOOSLI, CLAYTON G., HAMRE, DOROTHY, and GERBER, PAUL. Antigenic variants of influenza A virus (PR8 strain). V. Virulence, antigenic potency, and cross-protection tests in mice of the original and second series, 857

—. See HAMRE, LOOSLI, and GERBER, 829, 845

LUSE, SARAH A., and SMITH, MARGARET G. Electron microscopy of salivary gland viruses, 623

MACDOWELL, MURIEL. See OLIVER and MACDOWELL, 731

MAJNO, GUIDO, and KARNOVSKY, MANFRED L. A biochemical and morphologic study of myelination and demyelination. I. Lipide biosynthesis *in vitro* by normal nervous tissue, 475

MAO, FRANCES. See KETCHEL, FAVOUR, and STURGIS, 211

MARINETTI, GUIDO V. See MOBERLY, MARINETTI, WITTER, and MORGAN, 87

MARTIN, E. See DEMING, MOSBACH, BEVANS, DALY, ABELL, MARTIN, BRUN, HALPERN, and KAPLAN, 581

MAURER, PAUL H. Antigenicity of gelatin. III. The effect of physical and enzymatic treatments of gelatin on the subsequent precipitin reaction, 125

MCKAY, DONALD G., and SHAPIRO, SANDOR S. Alterations in the blood coagulation system induced by bacterial endotoxin. I. *In vivo* (generalized Shwartzman reaction), 353

McKay, Donald G., Shapiro, Sandor S., and Shanberge, Jacob N. Alterations in the blood coagulation system induced by bacterial endotoxins. II. *In vitro*, 369
—. See Shapiro and McKay, 377
McKenna, John M. See Stevens and McKenna, 537
Melly, Marian Ann. See Rogers and Melly, 561
Melnick, Joseph L. See Kleinfeld and Melnick, 599
Meyeserian, Mary. See Kaplan, 341
Migicovsky, B. B. See Bélanger and Migicovsky, 821
Moberly, Merle L., Marinetti, Guido V., Witter, Robert F., and Morgan, Herbert R. Studies of the hemolysis of red blood cells by mumps virus. III. Alterations in lipoproteins of the red blood cell wall, 87
Morgan, Herbert R. See Moberly, Marinetti, Witter, and Morgan, 87
Mosbach, E. H. See Deming, Mosbach, Bevans, Daly, Abell, Martin, Brun, Halpern, and Kaplan, 581

Nelson, Eric L. The development *in vitro* of particles from cytoplasm. I. Observations on particle development in bacteriologic media, 755
—. II. Particles from hemoglobin and deoxyribonucleic acid, 769
Nishio, Jane. See Salvin, 109

Oliver, Jean, and MacDowell, Muriel. Cellular mechanisms of protein metabolism in the nephron. VII. The characteristics and significance of the protein absorption droplets (hyaline droplets) in epidemic hemorrhagic fever and other renal diseases, 731

Pappas, George D., Ross, Michael H., and Thomas, Lewis. Studies on the generalized Shwartzman reaction. VIII. The appearance, by electron microscopy, of intravascular fibrinoid in the glomerular capillaries during the reaction, 333
Patnode, Robert A., and Hudgins, Paul C. Studies on the effect of triton (WR-1339) on guinea pig tissues. III. Tuberculin hypersensitivity and *in vitro* cytolysis of leucocytes by tuberculin, 55
—, —, and Janicki, Bernard W. Studies on the effect of triton (WR-1339) on guinea pig tissues. I. Lipide chemistry of lung, liver, spleen, adrenals, and blood, 33
—. See Hudgins and Patnode, 43
Pesch, Barbara B. See Reichlin and Glaser, 219
Pollice, Lucio. See Huggins and Pollice, 13

Ratnoff, Oscar D. See Lepow, Ratnoff, and Levy, 451
Reichlin, Seymour, and Glaser, Robert J. Thyroid function in experimental streptococcal pneumonia in the rat, 219
Reyniers, J. A. See Zweifach, Gordon, Wagner, and Reyniers, 437
Rogers, David E., and Melly, Marian Ann. Studies on bacteriemia. IV. Alterations in rabbit mortality associated with aging of a culture of *Escherichia coli*, 561
Ross, Michael H. See Pappas, Ross, and Thomas, 333
Rous, Peyton, and Allen, Raymond A. Fatal keratomas due to deep homografts of the benign papillomas of tarred mouse skin. Normal proclivities and neoplastic disabilities as determinants of tumor course, 63

SALVIN, S. B. Occurrence of delayed hypersensitivity during the development of Arthus type hypersensitivity, 109
SCOTT, EVA M. See DANNENBERG and SCOTT, 153
SHANBERGE, JACOB N. See MCKAY, SHAPIRO, and SHANBERGE, 369
SHAPIRO, SANDOR S., and MCKAY, DONALD G. The prevention of the generalized Shwartzman reaction with sodium warfarin, 377
—. See MCKAY and SHAPIRO, 353
—. See MCKAY, SHAPIRO, and SHANBERGE, 369
SHEPARD, CHARLES C. A comparison of the growth of selected mycobacteria in HeLa, monkey kidney, and human amnion cells in tissue culture, 237
SHOPE, RICHARD E. The swine lungworm as a reservoir and intermediate host for hog cholera virus. I. The provocation of masked hog cholera virus in lungworm-infested swine by ascaris larvae, 609
SHULMAN, N. RAPHAEL. Immunoreactions involving platelets. I. A steric and kinetic model for formation of a complex from a human antibody, quinidine as a haptene, and platelets; and for fixation of complement by the complex, 665
—. III. Quantitative aspects of platelet agglutination, inhibition of clot retraction, and other reactions caused by the antibody of quinidine purpura, 697
—. IV. Studies on the pathogenesis of thrombocytopenia in drug purpura using test doses of quinidine in sensitized individuals; their implications in idiopathic thrombocytopenic purpura, 711
SMITH, MARGARET G. See LUSE and SMITH, 623
SMITH, MARY RUTH, and WOOD, W. BARRY, JR. Surface phagocytosis. Further evidence of its destructive action upon fully encapsulated pneumococci in the absence of type-specific antibody, 1
STEVENS, KINGSLEY M., and MCKENNA, JOHN M. Studies on antibody synthesis initiated *in vitro*, 537
STURGIS, SOMERS H. See KETCHEL, FAVOUR, and STURGIS, 211
SWIFT, AUDREY. See KAPLAN, 341

THOMAS, LEWIS. See PAPPAS, ROSS, and THOMAS, 333

WAGNER, M. See ZWEIFACH, GORDON, WAGNER, and REYNIERS, 437
WANNAMAKER, LEWIS W. The differentiation of three distinct deoxyribonucleases of group A streptococci, 797
—. Electrophoretic studies of the extracellular products of group A streptococci, 783
WEIGLE, WILLIAM O. The nature of antigen-antibody complexes formed in rabbits during an immune response to bovine serum albumin, 653
WITTER, ROBERT F. See MOBERLY, MARINETTI, WITTER, and MORGAN, 87
WOOD, W. BARRY, JR. See KING and WOOD, 279, 291, 305
—. See SMITH and WOOD, 1

ZWEIFACH, B. W., GORDON, H. A., WAGNER, M., and REYNIERS, J. A. Irreversible hemorrhagic shock in germfree rats, 437

INDEX TO SUBJECTS

ABSORPTION droplets, protein (hyaline droplets) in epidemic hemorrhagic fever and other renal diseases, 731
N-acetylneuraminic acid, colominic acid, polymer of, 507
Acid, colominic, polymer of *N*-acetylneuraminic acid, 507
—, deoxyribonucleic, and hemoglobin, development *in vitro* of particles from cytoplasm, 769
— requirements, amino, of kidney cells in first culture passage, 643
Adenoviruses, characteristics of reproductive cycle of types 1 to 4, 133
Adrenals, lung, liver, spleen, and blood, lipide chemistry of, effect of triton WR-1339 on, 33
Adsorption and maturation of poliovirus in singly and multiply infected HeLa cells, 633
Agglutination, platelet, quantitative aspects of, inhibition of clot retraction, and other reactions caused by antibody of quinidine purpura, 697
Aging of culture of *Escherichia coli*, alterations in rabbit mortality associated with, studies on bacteriemia, 561
Albumin, bovine serum, antigen-antibody complexes formed during immune response to, 653
Allergy in brucellosis, bacterial, tissue culture studies on, 319
Amino acid requirements of kidney cells in first culture passage, 643
Amnion cells, human, and HeLa and monkey kidney cells in tissue culture, growth of mycobacteria in, 237
Anaphylactoid response of uterus and ileum injected with testis or sperm, demonstration *in vitro*, 95
Antibacterial activity of hemoglobin, 167
Antibody, human, quinidine as a haptene, and platelets, steric and kinetic model for formation of complex from, and for fixation of complement by complex, 665
— of quinidine purpura, quantitative aspects of platelet agglutination, and inhibition of clot retraction, 697
— synthesis initiated *in vitro*, 537
—, type-specific, destructive action of surface phagocytosis upon encapsulated pneumococci in absence of, 1
Antibody-antigen complexes formed during immune response to bovine serum albumin, 653
Antigen, effect of secondary injections of, upon retention in liver of primary injection, 497
—, whole, *Brucella suis*, effect on cultures of normal and *Brucella*-infected spleen, 319
Antigen-antibody complexes formed during immune response to bovine serum albumin, 653
Antigenic variants of influenza A virus (PR8 strain), serological characteristics of second line of variants developed in mice given polyvalent vaccine, 845
— variants of influenza A virus (PR8 strain), serological relationships of line of variants derived in sequence of mice given homologous vaccine, 829
— variants of influenza A virus (PR8 strain), virulence, antigenic potency, and cross-protection tests in mice of original and second series, 857
Antigenicity of gelatin, effect of physical and enzymatic treatments of

gelatin on subsequent precipitin reaction, 125
Antigens, streptococcal, in tissues, histologic distribution and persistence of M protein types in tissues, 341
Arthus type hypersensitivity, occurrence of delayed hypersensitivity during development of, 109
Ascaris larvae, provocation of masked hog cholera virus in lungworm-infested swine by, 609
Atherogenesis, effect of variations in blood pressure on cholesterol content of serum and tissues and on development of atherosclerosis, with high cholesterol diet, 581
Atherosclerosis, development of, and cholesterol content of serum and tissues, effect of variations in blood pressure on, with high cholesterol diet, 581

BACTERIAL allergy in brucellosis, tissue culture studies on, 319
— constituents, effect on resistance to heterologous infection and on activity of reticulo-endothelial system, 523
— endotoxin, alterations in blood coagulation system induced by, *in vivo* Shwartzman reaction, 353
— endotoxins, alterations in blood coagulation system induced by, *in vitro*, 369
— infections, acute, relation of circulating endogenous pyrogen to fever of, 305
Bacteriemia, alterations in rabbit mortality associated with aging of culture of *Escherichia coli*, 561
Bacteriologic media, particle development *in vitro* from cytoplasm in, 755
Biochemical and morphological study of myelination and demyelination, lipide biosynthesis *in vitro* by normal nervous tissue, 475
Biosynthesis, lipide, *in vitro*, by normal nervous tissue, biochemical and morphological study of myelination and demyelination, 475
Blood, appearance of endogenous pyrogen in, following intravenous injection of influenza virus, 383
— cells, fragility of, effect of triton WR-1339 on, 43
— cells, red, hemolysis by mumps virus, alterations in lipoproteins of red blood cell wall, 87
— coagulation system, alterations induced by bacterial endotoxin, *in vitro*, 369
— coagulation system, alterations induced by bacterial endotoxin, *in vivo* Shwartzman reaction, 353
—, lung, liver, spleen, and adrenals, lipide chemistry of, effect of triton WR-1339 on, 33
— pressure variations, effect on cholesterol content of serum and tissues and on development of atherosclerosis, with high cholesterol diet, 581
Bovine serum albumin, antigen-antibody complexes formed during immune response to, 653
Brucella suis whole antigen, effect on cultures of spleen from normal and *Brucella*-infected guinea pigs, 319
Brucellosis, tissue culture studies on bacterial allergy in, 319

CAPILLARIES, glomerular, appearance by electron microscopy of intravascular fibrinoid during Shwartzman reaction, 333
Cell, extracellular products of group A streptococci, electrophoretic studies of, 783
Cells, blood, fragility of, effect of triton WR-1339 on, 43
—, blood, red, hemolysis by mumps virus, alterations in lipoproteins of red blood cell wall, 87
—, HeLa, monkey kidney, and human amnion, in tissue culture, growth of mycobacteria in, 237
—, kidney, in first culture passage, amino acid requirements of, 643
—, normal kidney epithelial, cy-

tological aberrations in cultures, 599
Cells, singly and multiply infected HeLa, adsorption and maturation of poliovirus in, 633
Cellular mechanisms of protein metabolism in nephron, 731
Chemistry, lipide, of lung, liver, spleen, adrenals, and blood, effect of triton WR-1339 on, 33
Cholanthrene, 3-methyl-, effects on endocrine system and metabolism and its influence to retard growth of refractory mammary tumors, 13
Cholera virus, hog, swine lungworm as reservoir and intermediate host for, provocation of masked hog cholera virus in lungworm-infested swine by ascaris larvae, 609
Cholesterol content of serum and tissues and development of atherosclerosis, effect of variations in blood pressure on, with high cholesterol diet, 581
— synthesis, regulation in liver and influence of dietary fats, 813
Circulating endogenous pyrogen, relation to fever of acute bacterial infections, 305
— and leucocytic endogenous pyrogen, site of action, 291
Clot retraction, inhibition of, quantitative aspects of platelet agglutination, and reactions caused by antibody of quinidine purpura, 697
Coagulation system, blood, alterations induced by bacterial endotoxin, *in vitro*, 369
— system, blood, alterations induced by bacterial endotoxin, *in vivo* Shwartzman reaction, 353
Colicine K activity, preparation and properties of a substance having, 185
Collagen, influence of growth rate on neutral salt extracts of dermis, 265
—, properties and fractionation of neutral salt extracts of normal connective tissue, 247
Colominic acid, polymer of *N*-acetylneuraminic acid, 507
Complement, fixation by complex, steric and kinetic model for formation of complex from human antibody, quinidine, as a haptene, and platelets, 665
—, human, partially purified first component, activation of proesterase associated with, 451
Cortisone, hydro-, *in vitro* action on leucocyte migration, 211
Culture of *Escherichia coli*, aging, alterations in rabbit mortality associated with, studies on bacteriemia, 561
— passage, first, amino acid requirements of kidney cells in, 643
—, tissue, growth of selected mycobacteria in HeLa, monkey kidney, and human amnion cells in, 237
—, tissue, studies on bacterial allergy in brucellosis, 319
Cultures of normal kidney epithelial cells, cytological aberrations, 599
— of spleen from normal and *Brucella*-infected guinea pigs, effect of *Brucella suis* whole antigen on, 319
Cytological aberrations in cultures of normal kidney epithelial cells, 599
Cytolysis, *in vitro*, of leucocytes by tuberculin and tuberculin hypersensitivity, effect of triton WR-1339, 55
Cytoplasm, development *in vitro* of particles from hemoglobin and deoxyribonucleic acid, 769
—, particle development *in vitro* in bacteriologic media, 755

DEMYELINATION and myelination, biochemical and morphological, lipide biosynthesis *in vitro* by normal nervous tissue, 475
Deoxyribonucleases of group A streptococci, differentiation of three distinct, 797

Deoxyribonucleic acid and hemoglobin, development *in vitro* of particles from cytoplasm, 769
Dermis, influence of growth rate on neutral salt extracts of, in formation of collagen, 265
Diet, high cholesterol, effect of variations in blood pressure on cholesterol content of serum and tissues and on development of atherosclerosis, 581
Dietary fats, influence of, regulation of cholesterol synthesis in liver, 813
Diseases, renal, and epidemic hemorrhagic fever, protein absorption droplets (hyaline droplets) in, 731
Drug purpura using test doses of quinidine in sensitized individuals, pathogenesis of thrombocytopenia in, implications in idiopathic thrombocytopenic purpura, 711

ELECTRON microscopy, appearance of intravascular fibrinoid in glomerular capillaries during Shwartzman reaction by, 333
— microscopy of salivary gland viruses, 623
Electrophoretic studies of extracellular products of group A streptococci, 783
Encapsulated pneumococci, destructive action of surface phagocytosis in absence of type-specific antibody on, 1
Endocrine system and metabolism, effects of 3-methylcholanthrene on, and its influence to retard growth of refractory mammary tumors, 13
Endogenous pyrogen, appearance in blood following intravenous injection of influenzal virus, 383
— pyrogen, circulating, relation to fever of acute bacterial infections, 305
— pyrogen, effects in normal and influenza virus–tolerant recipients, 403
Endogenous pyrogen, leucocytic and circulating, site of action, 291
— pyrogen, relation of tolerance to production of, with influenzal viruses, 415
Endotoxin, bacterial, alterations in blood coagulation system induced by, *in vitro*, 369
—, bacterial, alterations in blood coagulation system induced by, *in vivo* Shwartzman reaction, 353
Enzymatic and physical treatments of gelatin, effect on subsequent precipitin reaction, antigenicity of gelatin, 125
Epidemic hemorrhagic fever and other renal diseases, protein absorption droplets (hyaline droplets) in, 731
Epiphysis of rachitic chicks, early changes following administration of vitamin D, 821
Epithelial cells, normal kidney, cytological aberrations in cultures, 599
Escherichia coli, alterations in rabbit mortality associated with aging of, studies on bacteriemia, 561
Extracts, neutral salt, of normal connective tissue, properties and fractionation in formation of collagen, 247
— of dermis, neutral salt, influence of growth rate on, in formation of collagen, 265
Exudates, acute inflammatory, leucocytic origin of endogenous pyrogen in, 279

FATS, dietary, influence of, regulation of cholesterol synthesis in liver, 813
Fever, epidemic hemorrhagic, and other renal diseases, protein absorption droplets (hyaline droplets), 731
—, pathogenesis, leucocytic origin of endogenous pyrogen in acute inflammatory exudates, 279
—, pathogenesis, relation of circulating endogenous pyrogen to fever

of acute bacterial infections, 305
Fever, pathogenesis, site of action of leucocytic and circulating endogenous pyrogen, 291
—, pathogenesis with influenzal viruses, appearance of endogenous pyrogen in blood following intravenous injection of virus, 383
—, pathogenesis with influenzal viruses, effects of endogenous pyrogen in normal and virus-tolerant recipients, 403
—, pathogenesis with influenzal viruses, relation of tolerance to production of endogenous pyrogen, 415
Fibrinoid, intravascular, in glomerular capillaries during Shwartzman reaction, appearance by electron microscopy, 333
Fixation. *See* Complement.

GELATIN, antigenicity, effect of physical and enzymatic treatments of gelatin on subsequent precipitin reaction, 125
Germfree rats, irreversible hemorrhagic shock, 437
Gland, salivary, viruses, electron microscopy, 623
Glomerular capillaries, appearance by electron microscopy of intravascular fibrinoid during Shwartzman reaction, 333
Growth rate influence on neutral salt extracts of dermis, in formation of collagen, 265

HAPTENE, quinidine, human antibody, and platelets, steric and kinetic model for formation of complex from, and for fixation of complement by complex, 665
HeLa cells, adsorption and maturation of poliovirus in singly and multiply infected, 633
—, monkey kidney, and human amnion cells in tissue culture, growth of mycobacteria in, 237
Hemoglobin, antibacterial activity of, 167
— and deoxyribonucleic acid, development *in vitro* of particles from cytoplasm, 769
Hemolysis of red blood cells by mumps virus, alterations in lipoproteins of red blood cell wall, 87
Hemorrhagic fever, epidemic, and other renal diseases, protein absorption droplets (hyaline droplets) in, 731
— shock, irreversible, in germfree rats, 437
Heterologous infection, resistance to, and activity of reticulo-endothelial system, effect of bacterial constituents on, 523
Histologic distribution and persistence of M protein types in tissues, in localization of streptococcal antigens in tissues, 341
Hog cholera virus, swine lungworm as reservoir and intermediate host for, provocation of masked hog cholera virus in lungworm-infested swine by ascaris larvae, 609
Homografts, deep, of benign papillomas of tarred mouse skin, fatal keratomas due to, 63
Homologous vaccine, serological relationships of line of antigenic variants of influenza A virus derived in sequence of mice given, 829
Host, intermediate, for hog cholera virus, swine lungworm as reservoir and host, provocation of masked hog cholera virus in lungworm-infested swine by ascaris larvae, 609
Hyaline droplets, protein absorption droplets, in epidemic hemorrhagic fever and other renal diseases, 731
Hydrocortisone, *in vitro* action on leucocyte migration, 211
Hypersensitivity, delayed, occurrence during development of Arthus type hypersensitivity, 109
—, tuberculin, and *in vitro* cytolysis

of leucocytes by tuberculin, effect of triton WR-1339, 55

IDIOPATHIC thrombocytopenic purpura, implications, pathogenesis of thrombocytopenia in drug purpura using test doses of quinidine in sensitized individuals, 711

Ileum and uterus injected with testis or sperm, demonstration *in vitro* of anaphylactoid response of, 95

Immune response to bovine serum albumin, antigen-antibody complexes formed during, 653

Immunity and pathogenesis of melioidosis in studies with virulent strains of *Malleomyces pseudomallei*, 153

Immunoreactions involving platelets, pathogenesis of thrombocytopenia in drug purpura using test doses of quinidine in sensitized individuals, implications in idiopathic thrombocytopenic purpura, 711

— involving platelets, quantitative aspects of platelet agglutination, inhibition of clot retraction, and reactions caused by antibody of quinidine purpura, 697

— involving platelets, steric and kinetic model for formation of complex from human antibody, from quinidine as a haptene, and from platelets, and for fixation of complement by complex, 665

— involving platelets, theoretical analysis of model, 691

Infected HeLa cells, singly and multiply, adsorption and maturation of poliovirus in, 633

Infection, heterologous, resistance to, and activity of reticulo-endothelial system, effect of bacterial constituents on, 523

— of guinea pigs with *Brucella* and normal guinea pigs, effect of *Brucella suis* whole antigen on cultures of spleen from, 319

Infections, acute bacterial, relation of circulating endogenous pyrogen to fever of, 305

Inflammatory exudates, acute, leucocytic origin of endogenous pyrogen in, 279

Influenza A virus (PR8 strain), antigenic variants, serological characteristics of second line of variants developed in mice given polyvalent vaccine, 845

— A virus (PR8 strain), antigenic variants, serological relationships of line of variants derived in sequence of mice given homologous vaccine, 829

— A virus (PR8 strain), virulence, antigenic potency, and cross-protection tests in mice of original and second series, 857

Influenzal viruses, pathogenesis of fever with, appearance of endogenous pyrogen in blood following intravenous injection of virus, 383

— viruses, pathogenesis of fever with, effects of endogenous pyrogen in normal and virus-tolerant recipients, 403

— viruses, pathogenesis of fever with, relation of tolerance to production of endogenous pyrogen, 415

Inhibition of clot retraction, quantitative aspects of platelet agglutination, and reactions caused by antibody of quinidine purpura, 697

Injection, intravenous, of influenza virus, appearance of endogenous pyrogen in blood following, 383

— with testis or sperm, demonstration *in vitro* of anaphylactoid response of uterus and ileum, 95

Injections, secondary, of antigen, effect upon retention in liver of primary injection, 497

KERATOMAS, fatal, due to deep homografts of benign papillomas of tarred mouse skin, 63

Kidney cells, in first culture passage, amino acid requirements of, 643
— diseases and epidemic hemorrhagic fever, protein absorption droplets (hyaline droplets) in, 731
— epithelial cells, normal, cytological aberrations in cultures, 599
—, monkey, HeLa, and human amnion cells in tissue culture, growth of mycobacteria in, 237
Kinetic and steric model for formation of complex from human antibody, from quinidine as a haptene, and from platelets, and for fixation of complement by complex, 665

LARVAE, ascaris, provocation of masked hog cholera virus in lungworm-infested swine by, 609
Leucocyte migration, *in vitro* action of hydrocortisone on, 211
Leucocytes, *in vitro* cytolysis by tuberculin, and tuberculin hypersensitivity, effect of triton WR-1339, 55
Leucocytic and circulating endogenous pyrogen, site of action, 291
— origin of endogenous pyrogen in acute inflammatory exudates, 279
Lipide biosynthesis *in vitro* by normal nervous tissue, biochemical and morphological study of myelination and demyelination, 475
— chemistry of lung, liver, spleen, adrenals, and blood, effect of triton WR-1339 on, 33
Lipoproteins of red blood cell wall, alterations, in hemolysis of red blood cells by mumps virus, 87
Liver, effect of secondary injections of antigen upon retention of primary injection in, 497
—, lung, spleen, adrenals, and blood, lipide chemistry of, effect of triton WR-1339 on, 33
Liver, regulation of cholesterol synthesis in, influence of dietary fats, 813
Lung, liver, spleen, adrenals, and blood, lipide chemistry of, effect of triton WR-1339 on, 33
Lungworm, swine, as reservoir and intermediate host for hog cholera virus, provocation of masked hog cholera virus in lungworm-infested swine by ascaris larvae, 609

MALLEOMYCES *pseudomallei*, virulent strains, pathogenesis and immunity of melioidosis, 153
Mammary tumors, refractory, influence of 3-methylcholanthrene to retard growth, effects on endocrine system and metabolism, 13
Man, complement, partially purified first component, activation of proesterase associated with, 451
—, human amnion, HeLa, and monkey cells in tissue culture, growth of selected mycobacteria in, 237
—, human antibody, quinidine as a haptene, and platelets, steric and kinetic model for formation of complex from, and for fixation of complement by complex, 665
Media, bacteriologic, particle development *in vitro* from cytoplasm in, 755
Melioidosis, pathogenesis and immunity, studies with virulent strains of *Malleomyces pseudomallei*, 153
Metabolism and endocrine system, effects of 3-methylcholanthrene on, and influence to retard growth of refractory mammary tumors, 13
—, protein, in nephron, cellular mechanisms, 731
Methylcholanthrene, 3-effects on endocrine system and metabolism

and its influence to retard growth of refractory mammary tumors, 13
Microscopy, electron, appearance of intravascular fibrinoid in glomerular capillaries during Shwartzman reaction by, 333
—, electron, of salivary gland viruses, 623
Morphological and biochemical study of myelination and demyelination, lipide biosynthesis *in vitro* by normal nervous tissue, 475
Mortality, rabbit, associated with aging of culture of *Escherichia coli*, alterations in, studies on bacteriemia, 561
Mumps virus, hemolysis of red blood cells by, alterations in lipoproteins of red blood cell wall, 87
Mycobacteria, growth in HeLa, monkey kidney, and human amnion cells in tissue culture, 237
Myelination and demyelination, biochemical and morphological, lipide biosynthesis *in vitro* by normal nervous tissue, 475

NEOPLASM. *See* Tumor.
Nephron, cellular mechanisms of protein metabolism in, 731
Nervous tissue, normal lipide biosynthesis *in vitro* by, biochemical and morphological study of myelination and demyelination, 475
Neuraminic acid, *N*-acetyl-, colominic acid, polymer of, 507
Nucleases, deoxyribo-, of group A streptococci, differentiation of three distinct, 797
Nucleic acid, deoxyribo-, and hemoglobin, particles from, in development *in vitro* of particles from cytoplasm, 769

PAPILLOMAS, benign, of tarred mouse skin, fatal keratomas due to deep homografts of, 63
Particles from cytoplasm, development *in vitro* from hemoglobin and deoxyribonucleic acid, 769
— from cytoplasm, development *in vitro* in bacteriologic media, 755
Pathogenesis and immunity of melioidosis in studies with virulent strains of *Malleomyces pseudomallei*, 153
— of fever, leucocytic origin of endogenous pyrogen in acute inflammatory exudates, 279
— of fever, relation of circulating endogenous pyrogen to fever of acute bacterial infections, 305
— of fever, site of action of leucocytic and circulating endogenous pyrogen, 291
— of fever with influenzal viruses, appearance of endogenous pyrogen in blood following intravenous injection of virus, 383
— of fever with influenzal viruses, effects of endogenous pyrogen in normal and virus-tolerant recipients, 403
— of fever with influenzal viruses, relation of tolerance to production of endogenous pyrogen, 415
— of thrombocytopenia in drug purpura using test doses of quinidine in sensitized individuals, implications in idiopathic thrombocytopenic purpura, 711
Phagocytosis, surface, destructive action upon encapsulated pneumococci in absence of type-specific antibody, 1
Physical and enzymatic treatments of gelatin, effect on subsequent precipitin reaction, antigenicity of gelatin, 125
Platelets, human antibody, and quinidine as a haptene, steric and kinetic model for formation of complex from, and for fixation of complement by complex, 665
—, immunoreactions involving, pathogenesis of thrombocytopenia in

drug purpura using test doses of quinidine in sensitized individuals, implications in idiopathic thrombocytopenic purpura, 711
Platelets, immunoreactions involving, quantitative aspects of platelet agglutination, inhibition of clot retraction, and reactions caused by antibody of quinidine purpura, 697
—, immunoreactions involving, theoretical analysis of, 691
Pneumococci, encapsulated, destructive action of surface phagocytosis in absence of type-specific antibody on, 1
Pneumonia, streptococcal, thyroid function in, 219
Poliomyelitis virus, adsorption and maturation in singly and multiply infected HeLa cells, 633
Polymer of *N*-acetylneuraminic acid, colominic acid, 507
Precipitin reaction, effect of physical and enzymatic treatments of gelatin on, in antigenicity of gelatin, 125
Pressure, blood, variations, effect on cholesterol content of serum and tissues and on development of atherosclerosis, with high cholesterol diet, 581
Proesterase, activation associated with partially purified first component of human complement, 451
Protein absorption droplets (hyaline droplets) in epidemic hemorrhagic fever and other renal diseases, 731
— metabolism in nephron, cellular mechanisms, 731
— types, M, histologic distribution and persistence in tissues, in localization of streptococcal antigens in tissues, 341
Purpura, drug, using test doses of quinidine in sensitized individuals, pathogenesis of thrombocytopenia in, implications in idiopathic thrombocytopenic purpura, 711
Purpura, quinidine, reactions caused by antibody of, quantitative aspects of platelet agglutination and inhibition of clot retraction, 697
Pyrogen, circulating endogenous, relation to fever of acute bacterial infections, 305
—, endogenous, appearance in blood following intravenous injection of influenza virus, 383
—, endogenous, effects in normal and influenza virus–tolerant recipients, 403
—, endogenous, leucocytic and circulating, site of action, 291
—, endogenous, leucocytic origin in acute inflammatory exudates, 279
—, endogenous, relation of tolerance to production of, with influenzal viruses, 415

QUINIDINE as a haptene, human antibody, and platelets, steric and kinetic model for formation of complex from, and for fixation of complement by complex, 665
—, pathogenesis of thrombocytopenia in drug purpura using test doses in sensitized individuals, implications in idiopathic thrombocytopenic purpura, 711
— purpura, reactions caused by antibody of, quantitative aspects of platelet agglutination, and inhibition of clot retraction, 697

RACHITIC chicks, early changes at epiphysis following administration of vitamin D, 821
Reaction, Shwartzman, appearance by electron microscopy of intravascular fibrinoid in glomerular capillaries during, 333
—, Shwartzman, *in vivo*, alterations in blood coagulation system induced by bacterial endotoxin, 353

Reaction, Shwartzman, prevention with sodium warfarin, 377
Red blood cells, hemolysis by mumps virus, alterations in lipoproteins of red blood cell wall, 87
Refractory mammary tumors, influence of 3-methylcholanthrene to retard growth and effects on endocrine system and metabolism, 13
Renal. *See* Kidney.
Reproductive cycle of types 1 to 4 adenoviruses, 133
Resistance to heterologous infection and activity of reticulo-endothelial system, effect of bacterial constituents on, 523
Reticulo-endothelial system, activity of, and resistance to heterologous infection, effect of bacterial constituents on, 523
Ribonucleases, deoxy-, of group A streptococci, differentiation of three distinct, 797
Ribonucleic acid, deoxy-, and hemoglobin, development *in vitro* of particles from cytoplasm, 769

SALIVARY gland viruses, electron microscopy, 623
Salt extracts, neutral, of normal connective tissue, properties and fractionation of, in studies on formation of collagen, 247
— extracts of dermis, neutral, influence of growth rate on, in formation of collagen, 265
Sensitized individuals, pathogenesis of thrombocytopenia in drug purpura using test doses of quinidine in, implications in idiopathic thrombocytopenic purpura, 711
Serological characteristics of second line of antigenic variants of influenza A virus developed in mice given polyvalent vaccine, 845
— relationships of line of antigenic variants of influenza A virus derived in sequence of mice given homologous vaccine, 829
Serum albumin, bovine, antigen-antibody complexes formed during immune response to, 653
— and tissues, cholesterol content of, and development of atherosclerosis, effect of variations in blood pressure on, with high cholesterol diet, 581
Shock, hemorrhagic, irreversible, in germfree rats, 437
Shwartzman reaction, appearance by electron microscopy of intravascular fibrinoid in glomerular capillaries during, 333
— reaction *in vivo*, alterations in blood coagulation system induced by bacterial endotoxin, 353
— reaction, prevention with sodium warfarin, 377
Skin, tarred mouse, fatal keratomas due to deep homografts of benign papillomas of, 63
Sodium warfarin, prevention of Shwartzman reaction with, 377
Specific antibody, type-, destructive action of surface phagocytosis upon encapsulated pneumococci in absence of, 1
Sperm or testis, demonstration *in vitro* of anaphylactoid response of uterus and ileum injected with, 95
Spleen, lung, liver, adrenals, and blood, lipide chemistry of, effect of triton WR-1339 on, 33
— of normal and *Brucella*-infected guinea pigs, effect of *Brucella suis* whole antigen on, 319
Steric and kinetic model for formation of complex from human antibody, from quinidine as a haptene, and from platelets, and for fixation of complement by complex, 665
Streptococcal antigens in tissues, histologic distribution and persistence of M protein types in tissues, 341

Streptococcal pneumonia, thyroid function, 219
Streptococci, group A, differentiation of three distinct deoxyribonucleases of, 797
—, group A, electrophoretic studies of extracellular products of, 783
Swine lungworm as reservoir and intermediate host for hog cholera virus, provocation of masked hog cholera virus in lungworm-infested swine by ascaris larvae, 609

TARRED mouse skin, fatal keratomas due to deep homografts of benign papillomas of, 63
Testis or sperm, demonstration *in vitro* of anaphylactoid response of uterus and ileum injected with, 95
Thrombocytopenia, pathogenesis in drug purpura using test doses of quinidine in sensitized individuals, implications in idiopathic thrombocytopenic purpura, 711
Thyroid function in streptococcal pneumonia, 219
Tissue culture, growth of selected mycobacteria in HeLa, monkey kidney, and human amnion cells in, 237
— culture studies on bacterial allergy in brucellosis, 319
—, normal connective, properties and fractionation of neutral salt extracts of, in formation of collagen, 247
—, normal nervous, lipide biosynthesis *in vitro* by, biochemical and morphological study of myelination and demyelination, 475
Tissues, blood cells, effect of triton WR-1339 on fragility of, 43
—, lipide chemistry of lung, liver, spleen, adrenals, and blood, effect of triton WR-1339 on, 33
— and serum, cholesterol content of, and development of atherosclerosis, effect of variations in blood pressure on, with high cholesterol diet, 581
Tissues, streptococcal antigens in, histologic distribution and persistence of M protein types in tissues, 341
—, tuberculin hypersensitivity and *in vitro* cytolysis of leucocytes by tuberculin, effect of triton WR-1339, 55
Triton WR-1339, effect on fragility of blood cells, 43
— WR-1339, effect on lipide chemistry of lung, liver, spleen, adrenals, and blood, 33
— WR-1339, effect on tuberculin hypersensitivity and *in vitro* cytolysis of leucocytes by tuberculin, 55
Tuberculin hypersensitivity and *in vitro* cytolysis of leucocytes by tuberculin, effect of triton WR-1339, 55
Tumor course, normal proclivities and neoplastic disabilities as determinants, in fatal keratomas due to deep homografts of benign papillomas of tarred mouse skin, 63
Tumors, refractory mammary, influence of 3-methylcholanthrene to retard growth, effects on endocrine system and metabolism, 13

UTERUS and ileum injected with testis or sperm, demonstration *in vitro* of anaphylactoid response of, 95

VACCINE, homologous, serological relationships of line of antigenic variants of influenza A virus derived in sequence of mice given, 829
—, polyvalent, serological characteristics of second line of antigenic variants of influenza A virus developed in mice given, 845
Vascular fibrinoid within glomerular

capillaries during Shwartzman reaction, appearance by electron microscopy, 333
Virulence, antigenic potency, and cross-protection tests in mice of original and second series in antigenic variants of influenza A virus, 857
Virulent strains of *Malleomyces pseudomallei*, pathogenesis and immunity of melioidosis, 153
Virus, hog cholera, swine lungworm as reservoir and intermediate host for, provocation of masked hog cholera virus in lungworm-infested swine by ascaris larvae, 609
—, influenza A (PR8 strain), antigenic variants, serological characteristics of second line of variants developed in mice given polyvalent vaccine, 845
—, influenza A (PR8 strain), antigenic variants, serological relationships of line of variants derived in sequence of mice given homologous vaccine, 829
—, influenza A (PR8 strain), virulence, antigenic potency, and cross-protection tests in mice of original and second series, 857
Virus, mumps, hemolysis of red blood cells by, alterations in lipoproteins of red blood cell wall, 87
—, poliomyelitis, adsorption and maturation in singly and multiply infected HeLa cells, 633
Viruses, adeno-, characteristics of reproductive cycle of types 1 to 4, 133
—, influenzal, pathogenesis of fever with, appearance of endogenous pyrogen in blood following intravenous injection of virus, 383
—, influenzal, pathogenesis of fever with, effects of endogenous pyrogen in normal and virus-tolerant recipients, 403
—, influenzal, pathogenesis of fever with, relation of tolerance to production of endogenous pyrogen, 415
—, salivary gland, electron microscopy, 623
Vitamin D, changes at epiphysis of rachitic chicks, following administration of, 821

WARFARIN, sodium, prevention of Shwartzman reaction with, 377